SUSTAINABLE SETTLEMENTS CHARRETTE: RETHINKING ENCAMPMENTS FOR REFUGEES AND DISPLACED POPULATIONS

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ROCKY MOUNTAIN INSTITUTE INTEGRATES HUMANITARIAN AID AND SUSTAINABILITY

By Cameron Burns

The average modern American knows virtually nothing about refugees. Yet in any given year, there are tens of millions of refugees in the poor nations of Africa, Asia, and Latin America. As humankind proceeds quickly into the 21st century, this group of people could become the most deserving of our attention simply because it's likely their numbers will grow. Continuing desertification of sub-Saharan regions, climate change and rising sea levels, ongoing resource shortages and the violence resulting from such shortages, will all be felt by the poorest members of society first.

The UN estimates that worldwide it cares for an estimated 22 million refugees; but that number, agency officials are quick to point out, might represent only half of all refugees. Some refugees are dispossessed for only a few weeks or months. Others have held their status for years. Some have even been refugees for several generations.

The camps that refugees come to call home can be awful, which is no surprise. When disaster, war and shortages prompt refugees to flee one place they often do so by the thousands or tens of thousands, even by the hundreds of thousands in stunningly short periods of time. For example, during a three-year period starting in 1990, 100,000 Bhutanese asylum-seekers fled into southeastern Nepal; between 1992 and '97 (five years), Tanzania received 800,000 refugees from Burundi and Rwanda; and between July and October 1994 (four months), 730,000 refugees fled Rwanda for Goma, in the Democratic Republic of Congo. One of the most compelling examples of such high-speed mass movement is probably the April 1994, mass exodus of 250,000 Rwandans—fleeing ethnic violence—who crossed the border into remote Northwestern Tanzania in two days.

Aid workers are pressed to erect tent cities within weeks, even days. Order must be maintained. Water, food and clothing must all be obtained immediately, then an ongoing source for these basics must be established. Not surprisingly, the business of taking care of refugees is falling more and more on military organizations, which have the skill and discipline to deploy quickly and create order out of situations that might otherwise progress into anarchy.

How these refugees are handled, and the way in which their habitations are established, is becoming of greater interest both in military circles and among aid organizations. One man who has become deeply involved with refugee camps and populations is Dr. Eric Rasmussen, of the U.S. Navy. Rasmussen's work in refugee settlements has shown him

that the aid being brought to refugees can create problems as big or bigger than the issues being addressed.

“When refugee camps are set up,” Rasmussen notes, “the urgent circumstances require that the basics of food, water, shelter, and safety be delivered just as quickly as possible or lives can be lost. Because the responsibilities for sectors are split across many agencies, isolated answers to a single problem are often the result. Unfortunately, despite superb efforts and many saved lives, the resulting infrastructure is often less than ideal and becomes semi-permanent. Such dis-connected coordination can cause seemingly foolish problems that are invisible until you work out in the camps.

“At one camp in Africa, for example, one aid agency delivered drinking water from a 5-cm pump spouts while another agency provided plastic water containers with 3-cm openings. These particular refugees weren’t familiar with funnels, so the simple mismatch resulted in thousands of gallons of spilt water. The spilt water created a mudhole. The mudhole was fixed when a different aid agency laid a cement slab with a sluice leading to a shallow collecting pond for the spilt water runoff, rather than coordinate a fix for the spout-jerrycan mismatch. The result for the refugees was a mosquito-infested pond 30 feet from the water pump and a 40% malaria rate in those who used that site to pump their drinking water. This is a design problem.”

A Refugee Primer

Organized refugee care is a fairly new phenomenon. In modern times, it was at the end of World War II—when an estimated 40 million Europeans were displaced—that the world community began looking at and understanding the plight of the dispossessed. In 1951, a UN meeting in Geneva wrote an international treaty, the 1951 Refugee Convention, which defined a refugee and outlined “the minimum humanitarian standards for the treatment of refugees.”

Officially, a refugee is a person who “is outside her/his country of origin (or habitual residence, in the case of stateless persons) and who, owing to a well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinion, is unable or unwilling to avail herself/himself of the protection to which s/he is entitled.”

The problem with the 1951 Convention definition, according to David Stone of the United Nations High Commissioner on Refugees (UNHCR) and Larry Thompson of Refugees International, is that the UN definition leaves out quite a few folks, notably people uprooted within their own countries, so-called “internally displaced persons” (IDPs). Further confusing matters in Afghanistan—where RMI’s sustainable designs might first be applied—there are “old” and “new” refugees, according to Thompson.

An estimated four million “old” refugees resulted from the Russian occupation and war of the late 1970s and 1980s; the new refugees were displaced by more recent fighting and a 1999–2001 drought. In late 2001, a vast new flood of refugees was feared in the wake

of U.S. military action, but international efforts to deliver relief aid inside Afghanistan, enabling Afghans to remain in their homes, were relatively successful.

Not all "refugees" are created equal. The roughly one million Afghan IDPs who could not cross international borders in 2000 and 2001 (partly because neighboring countries closed their borders) don't have the same rights as international refugees, and are often aided in only a minimal fashion or not at all. Moreover, many refugees are overlooked by the main humanitarian efforts because they integrate quickly into local populations, as have many Afghan refugees who have fled to Iran and Pakistan.

The camps where refugees wind up are usually in poor nations and they enormously burden local societies, economies, and ecosystems, leading to a swarm of problems. Armed militia and guerrilla factions sometimes infiltrate camps and terrorize refugees; violence against women, children, and other vulnerable people is common. Sometimes those hired to run the camps come from a local population that has been at war with the refugees, prompting severe mistreatment. Locals outside the camp often resent the international aid the refugees receive, and steal whatever they can from the camp inhabitants.

Sometimes the refugees themselves don't trust the aid—as workers in Sudan found when refugee mothers refused to feed their starving children because they feared the food was poisoned. Refugees are sometimes inadvertently given food, supplies, and fuels that break cultural or religious mores. Sometimes they're given food that requires considerable cooking, prompting energy-related problems such as deforestation.

Even local governments can throw up obstacles. At one African camp, the UN wanted to initiate several environmental projects. The national government—which had been charging rich Western humanitarian groups large sums of money simply to gain access to refugees within its borders—demanded $20 million from the UN to begin work. The UN refused and eventually gained access to the camp, but such extortion adds one more complex problem to the mix.

According to Refugees International's Thompson, a typical refugee camp can house 10,000 people. But camps may have hundreds of thousands of residents, as was the case with Rwandan camps in the Congo in the mid-1990s—one of which grew to 600,000. Refugee camps are supposed to be temporary, but unresolved conflicts often make it difficult for refugees to go home, and the camps can remain for decades.

A Rethinking of the Design Issue

As Dr. Rasmussen notes, design is at the center of many refugee camp problems, but the answer might not simply be to hire new designers. Some of the issues go far beyond poor communications about projects shared by aid agencies. There are endless stories from refugee camps where well-meaning aid organizations have provided advanced technological devices, the best foodstuffs, and other new, expensive materials that simply do not match the economic, educational, cultural, and geographic realities of the situation. Rather, Dr. Rasmussen feels strongly that such situations call for an

overlapping integration of players from diverse backgrounds. He thinks the sustainability community's approach of understanding an entire system before attempting a “solution, ” might be the appropriate approach in refugee settlements.

Properly combined, today’s best innovative practices can often provide for basic human needs—clean water, food, sanitation, shelter, security, light, refrigeration, telecommunications, medical care, and education—in ways that support prior populations, check the spread of poverty-inducing conditions, and restore vital habitat and infrastructure. Moreover, applying key insights from other disciplines can even help to create a sound sociology, an entrepreneurial micro-economy, and a sense of dignity and self-worth.

Combining many proven solutions, normally deployed only singly, should yield very important synergies. Making the skills and techniques scaleable and portable—so refugees can take them home to help with rebuilding—could make repatriation more likely and more successful and create a nucleus for national development. And if this can be done in refugee camps, it should also help some two billion or more other people seeking to create sustainable settlement in austere conditions.

In mid-February 2002, Old Snowmass’s Rocky Mountain Institute partnered with Dr. Rasmussen, to rethink refugee-and-displaced-persons settlements from scratch. A number of other groups were involved in the event, including the United Nations High Commissioner for Refugees (UNHCR), Refugees International, the UN Development Programme, the World Food Programme, the U.S. State Department, the Departments of Energy and Defense, among many other NGOs, government departments, and individual specialists.

The event, officially called the “Sustainable Settlements” *charrette*[1], took place at El Capitan Canyon, a rustic camp and retreat center near Santa Barbara, California. Use of El Capitan Canyon was donated and the event generously hosted by co-owner Chuck Blitz. Other costs were borne by generous grants from private donors, chiefly Betty Williams, John and Judy Harding, Kathleen Barry and Bob Burnett, and Adam and Rachel Albright.
The charrette was aimed at bringing together leaders from the aid community with some of the best integrative design practitioners for sustainable development to seek ways to manage refugee settlements more effectively. Often problems arise from well-meant but *dis*-integrated solutions.

DEVELOPING PROJECTS

So what should a nation do, if, say, it was suddenly faced with a three- or four-month-long influx of 100,000 people into a community, all of whom needed immediate help? Or 200,000 people? How about half a million?

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The 84 attendees at the charrette formed working groups covering all the issues of concern to the UNHCR—energy, site, water and sanitation, communications, education, health, economic development, food and nutrition, construction and shelter—and were assigned to envision three projects that could be implemented within 6 months. They were also given a theoretical location for their efforts: the community of Spin Boldak, where an encampment formed in late 2001 with nearly 10,000 IDPs (mainly women and children) near the Afghan-Pakistan border, where there is the possibility of using ideas from the charrette in a real-life setting. (Ideas generated from this charrette might also be applied along the U.S.-Mexico border, in rebuilding Kabul, and in many other settings.)

Some of the results were revolutionary—food, for example. It arrives in all sorts of packaging, most of which is discarded. But boxes of aid materials, for example, could be impregnated with crop seeds and spores of fungi that help them gather nutrients and hold soil. Each box panel can fit a region and season, ready to plant and create a kitchen or market garden just by putting it on the ground and watering it. Charrette participant Paul Stamets of Fungi Perfecti is already talking to packaging firms about making such boxes.

How about education? Such a "seed box" could deliver a "School-in-a-Box"—another charrette idea, supplying refugees with camp information, learning materials and school curriculum, gardening supplies, solar toys, solar-power information, you name it. Even some of the simplest—but currently unapplied—ideas could be helpful in camps.

"The first project our group developed was an assessment of the refugees themselves, an inventory of the human resources," noted RMI's Michael Kinsley, Economic Group facilitator. "There's a lot of brainpower that comes into these camps, and camp organizers should be tapping into that resource." Not only does an assessment provide humanitarian agencies with information about the population, Kinsley noted, it could empower the refugees themselves, by building self-esteem and getting them involved with camp projects. It also helps prepare them for their return home. And if the inventory goes on a smart card rather than a simpler ID card, it can also represent an unstealable personal store of value (set up with microcredit upon registration) to jump-start local commerce.

AN ENERGETIC FLOW OF IDEAS

The individual projects the charrette produced were impressive (greater details are below and in the individual discussion streams), but it was the way in which complementary knowledge and experience was connected and woven together that made this design process unique. A poignant example of this came from the charrette's Energy Group, which comprised technology and fuels experts, solar and adobe experts, and experienced aid workers.

On their first day, group members pondered how to get the most heat and light from various fuels, and which fuels were appropriate. They came up with some good ideas, but the arrival of Afghan refugee Fauzia Assifi and an Afghan-experienced nurse-anthropologist caused the group to refine good ideas into great ones.

Afghan families, Assifi explained, are accustomed to heating their feet and lower legs by sitting together (*sandelei*) around a table, covered with a heavy quilt, with a small charcoal brazier (*manqal*) underneath—an arrangement similar to the Japanese *kotatsu*. The brazier, containing coals covered with ash, stays hot for many hours. Afghans cook, eat, and share each other's company around the manqal and often go to sleep in the same positions by leaving their legs under the brazier-warmed quilt and stretching out on their sleeping mats.

Building on Fauzia's information, the Energy Group decided that a new type of brazier insert might be in order. Fueling it—and an efficient stove/pot combination for cooking—with LPG (bottled gas) could greatly decrease the environmental damage resulting from cooking with fuelwood (and then trying to heat people with the same cooking fire). It could free up the excessive fuelwood gathering time required of women and children, so they could further their education or earn more, and could avoid landmines and attackers while foraging for firewood. It would also eliminate indoor smoke, and therefore eye damage, which is chronic in Afghanistan, without many of the risks of kerosene. A trickle brazier that uses only a tiny amount of LPG would thus provide personal warmth to family groups in the evening and at night in cold climates, in a way that reinforces family cohesion and traditional practices.

The Energy Group took the discussion even further by hypothesizing that such new technology might stir the interest of gas, oil, and LPG companies—such as those now emerging in Afghanistan—which could see new markets created through technologies introduced for refugees. The discussion was rich and deep.

The roughly two dozen projects developed were then considered on an integrated basis, taking cultural and technological appropriateness and resource preservation into account. Yet, as the working groups pondered their projects, it became apparent that there are several larger ideals humanitarian agencies must follow. (See EMERGING THEMES, below.)

WHERE DO WE GO FROM HERE?

The Sustainable Settlements charrette was not undertaken to produce floorplans for camp buildings and design drawings for new cooking devices; rather, its purpose was to create a *settlement design methodology and template* for quickly helping displaced people—in short, a primer for aid workers. This report and several articles authored by various participants and available on several websites, as well as the websites themselves, are one outcome of the event. However, there are several other possible destinations for the information shared and the ideas and projects generated at the charrette.

First, representatives from several large aid organizations have expressed interest in the outcome of the charrette, including the UNHCR, UN Development Programme, the World Health Organization, the World Food Programme, Refugees International, US AID and others. Also, according to Dr. Rasmussen, there is interest in using the ideas for domestic sites within the United States—in depressed or marginal communities.

Second, the President of the Massachusetts's Institute of Technology (MIT) recently mandated that the university look for "expeditionary" opportunities and find people active on field projects and promote and support the work being done in those projects. "It might be an architect building a small community in Turkey, it might be a geologist working in Nepal," explained MIT's Mike Hawley. He noted that MIT is interested in "tugging up those projects, giving them better visibility, funding, resources, and real incentives to synthesize the kinds of skills that are needed across traditional boundaries in the university."

Additionally, MIT has an "entrepreneurship competition" in which local venture capitalists assemble prize money, then examine various projects going on at the university. The projects are developed with business plans and then entered into a competition with $50,000 in prize money. Six winning plans are funded. Some go on to become viable businesses. Hawley felt this type of approach might be one way to get some of the charrette projects moving quickly.

Third, there is interest from the North American Development Bank (http://www.nadbank.org/english/program_service/beif/beif_frame.htm) in experimenting with sustainable refugee camps along the U.S.-Mexico border—where "a constant flow of refugees," according to author Alan Weisman, is present. The bank has reportedly set aside $23 billion for such activities.

THE PROJECTS

The projects developed by the eight working groups at the charrette are only briefly described below. To get a fuller picture of how they addressed some of the **questions** and **challenges** developed using the charrette template, as well as the perceived **potential problems** associated with the projects, please read each group's discussion notes.

FOOD & NUTRITION GROUP

The ultimate goal of the Food & Nutrition Group's work is to get refugees to feed themselves. It is important to achieve self-sufficiency before "the next emergency" forces support agencies to redirect their efforts.

1. 'Knowledge Scoop'

A "self-feeding" camp starts with good knowledge. Assessments are possibly the most effective way to determine the ecological best fit for the camp, considering resources, constraints, requirements and relationships. A high quality initial assessment is vital. The Food and Nutrition Group therefore recommended a "holistic, comprehensive, integrated, multi-agency and full cycle response assessment" process, which they dubbed the "knowledge scoop." Both local and outside experts would perform assessment, possibly with assistance from the refugees themselves. It would create a "virtual guild" of expertise for sustainable relief by considering such things as topography, hydrology, traditional agricultural methods, capacity, human capital, coping skills, regional context, and diet. The Scoop provides the best information on the best long-term responses to

meeting refugee food needs, guarding against donor fatigue, mitigating environmental damage and supporting self-sufficiency.

2. EcoAction Team (E.A.T.)
The EcoAction Team coordinates information and implements recommendations coming from the Scoop—offering resources and expertise for camp inhabitants. It is drawn from and serves as a resource to multiple relief agencies as well as camp residents. The EAT would be both a group of people and a physical center. Its purpose is to increase camp food production by linking the emergency (Phase One) food delivery system to an evolving food production (economic) system, promoting local food production expertise, helping to turn all camp inputs into resources, and teaching the teachers. The physical delivery point for emergency food becomes a learning and community development point. Along the way the EAT would help to monitor the overall health of the camp and work to improve it, create a food knowledge base and process, promote natural capital, and support camp governance. Support for the development of the EAT concept should come from food aid providers motivated by the potential for long-term reductions in aid flows that indigenous production will ensure.

3. A Box to Save the World
The highlight of the Food Group's projects was the "Box to Save the World." In the Group's vision, all debris flows at the camp—and in particular food packaging—are turned into soil, seedbeds and other supports for food production, habitat improvement and self-sufficiency. The "Box to Save the World" is the same box that is typically used during the emergency phase to distribute food rations once they reach the camp. The difference is that this box itself can grow into more food. To start their garden, recipients would simply spread the box on suitable ground and add water. It will be manufactured of highly biodegradable material impregnated with seeds of appropriate foodstuffs (or other useful plants) plus mycorrhizal fungi to help the seeds take root. Obviously this strategy will work with every box that reaches the camp. Boxes can be impregnated with seeds and agricultural products to provide a livelihood for refugees and help to reverse environmental degradation. Seeds would be selected from naturally occurring, region-appropriate and season-appropriate plants, including annuals and perennials. Each panel of the box would be printed with simple, graphic instructions on what the box contains and how to use it. This concept integrates well with other educational projects discussed at this charrette. Use of the boxes develops transferable human and physical capital. Creating this "implement" supports cottage industry and is also an excellent possibility for private sector partnering. Charrette participant Paul Stamets of Fungi Perfecti is already talking to packaging firms about making such boxes.

WATER & SANITATION GROUP
Generally the most pressing immediate requirement for refugees is water. Thus, establishing a safe water supply was the first objective the Water & Sanitation Group identified. Arguably, water is the most important ongoing need as well. The first two projects represent the importance of a clean water supply. The third represents a "recycling" of water. Part of the water challenge is that most refugee settlement locations

don't have a significant water supply, so it must be trucked in. What is generally trucked in isn't that clean—just sucked from a nearby town or pond.

1. Mobile Emergency Relief Water Treatment System
The technology already exists to manufacture portable treatment systems that can provide immediate, safe water supply from almost any source. Using their knowledge of available technology, the Water & Sanitation Group partially designed a water treatment system. It's essentially a 'backpack' (like a large Camelback™, but with mechanicals thrown on to the back of a truck (like a camper shell). It would be made sturdy enough to be thrown out of a C130, etc. It treats the water as it is pumped into the tank.
As envisioned, their system would provide an alternative to chlorination. Also, it would work with any 12-volt power source—a very small power need. It cleans the water to a point of health w/o chlorine, which might have cultural implications or just not be used. As designed, group members estimated their device could treat one ton of water per hour, remove sediments, pathogens, heavy metals, organics, and nitrates, and would require only minimal operator training.

2. 'Slow' Sand Filters
A longer-term supply of safe water is critical to camp stability. The Group felt that its second most important project should be a longer-term treatment system. The group believes this can be done by upgrading existing UNHCR sand filters with low-power ultra-violet disinfection technology. This non-chemical method would be superior as a "sustainable" solution. The upgraded Sand Filters envisioned by the group would require an estimated 60 watts for disinfecting 15 liters per minute (about 1 ton per hour), and would be adequate for 1,000 persons at 20 liters per day. Such Sand Filters do not require a pressurized water supply, and they work in conjunction with existing UNHCR sand filters.

3. Reed/Wetland Wastewater Treatment
Since wastewater is unavoidable, it might as well be used for something. The group envisioned using wastewater for agricultural irrigation. It would first be run through a reed bed/wetland system for treatment, before being applied to crops and trees.
The capital costs of creating such systems are extremely low, and the results are already proven (currently, there are more than 5,000 systems in operation worldwide).

ECONOMIC DEVELOPMENT GROUP

This group confronted a daunting dilemma: how to improve refugees' economic situation without encouraging them to remain in their camps, which would be contrary to policies of the UNHCR and the desires of most host countries. The group concluded that economic-development efforts must be focused on (a) building the self-sufficiency of the camp economy to help make life in the camp more bearable and to reduce the demand for relief services, and (b) strengthening refugees' economic skills and potential, so that they are better prepared to rebuild their home economy when they return. The group quickly learned that, in general, relief workers have insufficient resources or capability to provide

economic development to refugees, thus the group's first suggestion was an inventory of a camp's human resources.

1. Refugee Skill Inventory

Despite outward appearance and wretched conditions, many refugees have valuable skills that can be put to use in camps, both directly and teaching fellow refugees. Though camp registration in the early emergency phase of camp life is difficult, even chaotic and dangerous, the group is convinced that camp organizers should devise culturally sensitive means to inventory refugee skills as part of registration process. Skills-related questions should be added to registration protocols. Putting those skills to work in the camp in an organized way would increase the dignity, self-respect, and economic potential of residents while in the camp and upon repatriation. And if an individual's skills were recorded on a smart card rather than a simpler ID card, it would become record of personal value that might be more difficult to steal.

2. Development/Business Center

Group members envisioned a Center that would teach and support skills (farming, crafts, business, management, leadership etc.) that would improve conditions in the camp and even in nearby communities and strengthen the capacity of refugees to rebuild their home economies upon repatriation**.** It also could provide micro-credit and technical assistance for fledgling businesses. Refugees, to the extent possible, plus a new cadre of international development workers would provide classes and other services. The center would be integrated with centers recommended by the food and communications groups.

3. International Development Workers Training Institute

The group learned that, though relief workers are extraordinarily committed and energetic, few are prepared to help build refugees' economic potential. Therefore, it proposed an institution to prepare relief and development workers to support refugees in developing stronger camp and home economies. This institute also would develop operational understanding of both social and ecological restoration activities. Primarily web-based, it would include on-site experience in delivery of camp development/business centers.

EDUCATION GROUP

While UNHCR defines education as one of the basic rights of a refugee, few camps provide formal schools. If one does exist, it's often an informal gathering under a tree or in a corner of the camp. The Education Group proposed that education should not be the caboose, but rather the engine driving refugee settlements for all members.

Any educational initiative requires some fundamental elements to maximize its potential for success. These include the need for a **local vision** to create and move initiatives forward; the need for **sensitivity and inclusiveness**, particularly regarding women's issues and illiteracy; the need for **assessment, monitoring and evaluation**; and the need for ongoing **support** for programs. Using these requirements, the education group identified three modules.

1. Train the Trainers in Sustainability

The "train the trainers" initiative is intended to empower the "community animators" present in every group, and insure that education of refugee populations includes vital community building skills and sustainability training. This module would provide support and training to help educators pass on their knowledge to their community as effectively as possible.

Training would be preceded by an initial appraisal to establish the social, cultural, religious and political resources and requirements of a specific settlement population. The appraisal should also identify all potential local NGO partners, whose support and participation is crucial for effective implementation. Vital skills for community building would include conflict resolution, leadership skills, inclusiveness, and teaching problem solving and participatory decision-making. Training for sustainability would teach whole systems thinking in assessing camp resources and problems. Special attention should be paid to women's issues (family planning, healthcare, childcare, literacy issues, etc.). Training and execution of effective record keeping is another vital component. More than just paper shuffling, proper documentation of the education history and abilities of students is invaluable when refugees return to school or employment in their home regions. Record-keeping and information exchange can also help educators within camps to keep up with formal education curriculum requirements from their home country.

2. "School-in-a-Box"

This initiative is intended to provide basic materials, how-to information, physical capacities, and curriculum content in a large physical box, for the purpose of establishing both a basic school and additional programs. The School in a Box concept is already in use in some places (i.e., UNICEF, Rishi Valley). The box should contain both conventional tools and learning materials (books, paper, pencils, etc.), and interactive materials designed to encourage experiential rather than rote learning. This should be a "sea chest"-sized object containing multiple modular boxes appropriate to the needs of the settlement. Intended to emphasize whole-system thinking, the box could include clothing for children (e.g. a uniform they're proud to wear); the "Life in a Box" described in the nutrition group; PV cell materials; latrine kits; "club" kits; "fun and games" kits; and curriculum instructions for formal and informal teaching. The box can be tailored to low, medium, and high budget scenarios. An "Adopt-a-Box" program sponsored by schools in other countries could be used to create accountability for the box reaching its intended recipients, and to build global connections.

3. Community, Life and Repatriation (CLR) Skills

CLR skills are intended to empower refugees with the skills to become independent, self sufficient and prosperous upon return to their homeland. Refugees must be able to lead and rebuild their community both within the camp and upon their return home. The initiative would be designed to cultivate a set of practical skills that combine indigenous resources and expertise with best-of-breed techniques for building positive and sustainable community elements: gardens and farms, homes and businesses, clothing and paper, etc. In addition to vocational skills, this module seeks to help rebuild an indigenous system of justice by supporting community leadership and self-regulation within refugee settlements.

A school within a refugee camp should be a center of all modes of learning, where people of all ages and genders can get apprentice-style hands-on experience to learn the skills to build a practical livelihood and a healthy community – for example, weaving, masonry, and adobe-making. Resources for the development of this module include the Gaviotas model, the Peace Corps, and Sustainable Village.

ENERGY GROUP

The Energy Group was charged with figuring out appropriate cooking, warmth, and light systems and fuels. The three projects developed were:

1. Fuel+Technology Package for Cooking

Because of the impacts of the use of fuelwood has on both society (gathering wood exposes women and children to violence and landmines, and requires much time that could be better used for education or wage earning) and the environment, the group felt alternate fuels should be explored. (Commonly used in camps, kerosene is very dangerous, causing carbon monoxide poisoning, and it is easily sold through the black market.) The group felt liquified petroleum gas (LPG) had some advantages. Because cooking requires 70 percent of camp energy, a reexamination of LPG cooking devices were suggested. Additionally, the group suggested a reexamination of the types of devices used for cooking (pots, pressure cookers, kettles, etc.), and suggested there might be more efficient models made of better-conducting metals available than are currently distributed to refugees.

2. Communal Warmth—Propane Trickle Brazier.

In many camps in cold climates (such as Afghanistan's) there is a tremendous need for personal warmth for family groups in the evening and at night. The energy group wanted to find a way to deliver these things, while at the same time reinforcing family cohesion and traditional practices. As described in the narrative above, the group learned Afghan families are accustomed to heating their feet and lower legs by sitting together (*sandelei*) around a table, covered with a heavy quilt, with a small charcoal brazier (*manqal*) underneath—an arrangement similar to the Japanese *kotatsu*. The brazier, containing coals covered with ash, stays hot for many hours. People often go to sleep in the same positions by leaving their lower extremities under the brazier-warmed quilt and stretching out on their sleeping mats. The group suggested that a trickle manqal be developed with the capacity to use two fuels—charcoal or LPG with a catalyst burner. Such a device would cost considerably less than two separate devices, and have many side benefits as well (no kerosene smoke, better efficiency, etc.).

3. Personal and Security Lighting

Lighting is needed for both personal and security reasons. Individuals use light for security, craft work (i.e. sewing) after dark, and reading. The group felt individual lighting—running on solar or other-method rechargeable batteries—could easily be delivered by LED lights; several small mountaineering headlamps were shown to the larger group as examples. There is also a small business development opportunity for community recharging "stations" during the day through pedal, solar or wind as

appropriate. Larger-area lighting could be powered by solar rechargeable batteries/off-grid with overlapping coverage so that gaps/dark spots in coverage areas are eliminated. Daylighting techniques were suggested for schools and community buildings.

COMMUNICATIONS GROUP

The Communications Group did not approach communications as a goal in itself. It was discussed as a supporting component of other activities, such as commerce, education, political involvement, and other activities. Yet, communications still need to be developed in a "sustainable" manner—low power, off the grid, recyclable, economical, and easy-to-use. The group developed three projects: **a low cost mass distribution of "re-purposed" toys**, **satellite-based infrastructure** (a web of small info devices that can be used locally and nationally), and a **telecommunications training center**, training not only in communications but how to use communications in other areas. The projects are highly interrelated.

1. 'Re-purposed' Toys

In terms of gadgets, it's always children that adopt them first. Usually, they're followed sometime later by the adults. Since adaptations of technology can offer tremendous benefits to displaced societies, creating a device that appeals to children was the first project discussed by the Communications Group. Specifically, they envisioned a small, personal, low-cost device ("toy") that can receive a signal or read programmable material. Personal transistor radios and more modern Walkman™-type devices are such examples. Such devices are extremely cheap in the West, and can either use cards, chips, or tapes to carry information, or they can receive radio signals. Re-deployed for use in camps, they could offer everything from information about the camp to culturally appropriate programming. After the distribution of personal devices, aid workers need to follow up in two areas:

2. An Information System ('Camp Radio')

Voice (and eventual text/web) communications can provide tremendous support for all camp activities. To supply information and entertainment to camp inhabitants, camps need a broadcasting or information source—in essence, the broadcaster who sends a signal or disk to the "Re-deployed Toys." A local GSM-based information system, along with a regional satellite-based system could provide the content needed to inform, instruct, and entertain refugees. Additionally, such telecom systems can create business opportunities for those establishing and running the systems.

3. Telecomm Education Centers

This would be a place wherein refugees and IDPs can learn the technical aspects of communications technology (i.e. how to use the personal devices, and how to run the information services), as well as the myriad ways that communications can bolster commerce, education and other activities. Such a training center, the group felt, should reflect whatever tools and infrastructure already exist in the rural areas since many of the people being trained will return to rural areas where they can continue expanding communications services in their home area. One important component of this three-part

project is to train and educate people not only to use communications devices, but also train them to develop economic models that promote commerce in the rural areas.

HEALTH GROUP

The most important factors that influence health in a refugee camp (as in society at large) are factors outside the usual jurisdiction of doctors. Typically, by the time a doctor gets involved with refugees, the state of their health has already been determined by the sanitation, nutrition, security, economic stability, and mental health support network in the camp. Doctors need to be involved in the larger issues of refugee health, including monitoring community systems and community health (regularly checking the water purity, and monitoring child malnutrition, etc.) to catch causes of health problems before they result in epidemics. Public policy is critical, as is evident by the numerous examples of public programs that have resulted in disastrous effects on health (such as public housing projects and Native American Indian reservations), as well as examples of public programs that have improved health (as in Curitiba, Brazil). The three individual projects established included:

1. Family Planning

Family planning is critical to both human *and* environmental health. It is such a culturally sensitive issue, however, that it is absolutely essential that natives of the culture provide the service, and provide it in a culturally appropriate way. What might work very well in some cultures (e.g., cartoon characters that promote contraception in the Far East) won't work in other cultural settings (e.g., Afghanistan). Aid agencies should work with the local community and religious leaders to assist them in providing this service. Women's education is likely the most important aspect of family planning. There is a direct correlation between female literacy and reduction in child mortality. Literacy enhances a woman's sense of identity and empowerment (particularly the knowledge that she is protected by the rule of international law, the Declaration of Human Rights); this in turn enhances her ability to make decisions that will promote her own health and the health of her family. Educating women will not only reduce child mortality rates but will increase family health at low cost. (A study on longevity found that the five countries that most successfully achieved longevity at low cost had all of the following: political commitment, female literacy, nutrition, and equity healthcare.)

2. Mental Health Treatment

The main mental health problems that arise in refugee camp situations include post-traumatic stress, depression, apathy and boredom. Mental health disorders are as debilitating as tuberculosis. Good mental health is arguably the largest asset of the camp; restoring it improves the capacity of the community. The group recommended that mental health care for post-traumatic shock syndrome (PTSS) should be provided by community health leaders who would be trained in the "Sambhavna" program (the disaster-relief program enacted in Bhopal after the Union Carbide tragedy). Building a community facility to provide a meeting space for peer support would be a tremendous benefit for people with PTSS.

3.Improve Inhabitants Immune Systems
Since the most effective way of promoting health is preventing disease in the first place, the group recommended providing key nutritional supplements to boost the immune systems of refugee camp inhabitants. Like the Food & Nutrition Group, the Health Group turned to mushrooms to most effectively and inexpensively serve this purpose. There are seven basic medicinal mushroom varieties that could be incorporated into the "Seed Box" that was suggested by the Food & Nutrition Group. Mushroom growing would be incorporated into culturally appropriate farming techniques. In many cultures mushrooms are already an element of the culinary tradition, in other cases they might have to be introduced as a new element or incorporated "invisibly" into other foods. To get the mushrooms started, either spores or freeze-dried mycelium (spores are hardier) could be delivered to the camp. Once the mushrooms have been cultivated, they can be preserved for later use. This and other information about mushroom cultivation and use would be incorporated on the boxes.

SITE GROUP

The Site Group discussed the fact that much information about helping refugees exists; the problem is it exists in pieces in different places. Also, the information that does exist misses much information about the socio-cultural aspects of the refugee population itself.

1. Information 'Reachback' Project (Database)
Humanitarian groups often find themselves trying to establish campsites without any background information. There is much information already available—it simply needs to be assembled and available for humanitarian workers on the ground and workers in training. The information would be directed at three challenges: training, problem-solving, and strategic decision-making. Obviously, it could take multiple forms—web, paper hardcopy, portable electronic forms, etc. Such information should likely be housed with the UNHCR, and would benefit all phases of camp management. The information could also be shared with universities and other learning institutes, as well as funding groups.

2. Socio-cultural Information Project
To ensure socio-cultural sustainability in refugee camps alongside environmental and economic sustainability, the group felt that a "socio-cultural information gathering project" was important. Such an information-gathering project would be similar to the refugee assessment described by the Economic Development Group, but it would focus on the cultural aspects of the displaced population rather than on their individual skills. Field researchers would interview and observe refugees to gather information about how to best develop, change, and operate relief efforts—everything from how a building should be sited to which activities are appropriate next to one another. Aid agencies would gather and distribute information on the socio-cultural factors that are specific to a region or group. The information would be shared with both refugees and aid workers. "The point to remember here is that the refugees themselves are the experts," noted Claire Cooper-Marcus.

3. Strategic Operations Planning (for site selection)
At present, humanitarian relief is approached in a reactionary manner. Society reacts to events; it does not plan and prepare for them. Global "hotspots," where historical experiences and current geo-political situations indicate that political conflicts will likely lead to the mass displacement of civilian populations should be acknowledged, and planned for. At any given time, the group felt that there are 20–30 such places around the globe. Such a strategic plan should take multiple forms and be available immediately when crises occur. The plan will need to be updated as project is progressing.

EMERGENT THEMES

Although the working groups' projects might appear rather simplistic at first blush, it is important to consider that there are a number of very important themes and goals that cut across all the projects and unified them in special ways. Such qualities were not well represented in the descriptions of individual projects, nor in the group discussion notes, so they are briefly described here.

First, all charrette participants agreed that the refugees themselves should be encouraged to lead efforts to provide aid. They know their cultures, their religions and regions and desires better than any Western aid worker. Having refugees lead their own efforts in all eight areas (energy, site, water and sanitation, communications, education, health, economic development, food and nutrition) not only builds esteem in the refugees, but it assures that well-intentioned help doesn't get mis-applied.

Second, the help must be appropriate—culturally, religiously, economically, technologically, geographically, and in terms of resources. And while all these projects acknowledged that, they all point to a strong emphasis toward education, both for aid workers and the refugees. Learning is the basis for all good, solid, appropriate work. "Cultural imperialism" is a habit we should all strive to avoid.

Third, aid should be coordinated from the start, and throughout the displacement period of the refugees in all areas. As has been briefly seen, some of the projects meet each other across a topic-area boundary—the "School-in-a-Box" and the "seed box" are an immediate example, whereby the ideals of the food group join with the goals of the Education Group to meet a need in a sustainable manner. Such coordination is extremely important; after all, it was a lack of coordination that prompted RMI's charrette in the first place.

And finally, the projects themselves must be more fully developed. How they leverage one another, support cultural goals, enhance the environment, the economy, and the lives of these poor dispossessed people must be completely understood before they are taken out and tried. As the UNHCR's David Stone put it, "Please do not try and take any untested or unproven techniques or tools or to a refugee setting and certainly not to an IPD setting in which the infrastructure is less supporting than in many refugee camps. There's a lot of things we need to do before we can take some of these individual activities, put them together and deliver them whole to IDP or refugee camps."

Regardless of exactly where the results go, charrette participants will continue the ongoing healthy, rich dialogue and share it with whatever other individuals organizations and governments are interested. Unfortunately, the future of refugee camp business is strong. As the World Health Organization has noted, “almost two billion people—one-third of humanity—were affected by natural disasters in the last decade of the 20th century. Floods and droughts accounted for 86 percent of them.” Add to that coming climate change, future wars and resource shortages, and it becomes apparent that unfortunately, the demand for clean, healthy, habitable, and sustainable settlements is going to go up, not down.